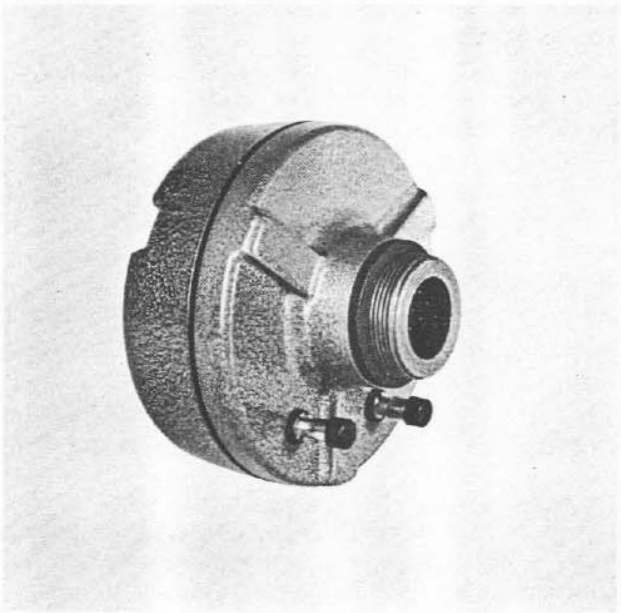

DESCRIPTION

The new 1828C Electro-Voice convertible driver is the result of the most modern high fidelity engineering techniques applied to public address speakers. The characteristics of this driver were chosen to accommodate the majority of sound jobs where moderate power handling, high efficiency, and wide range must be combined. Applications include gymnasiums, auditoriums, parks, playgrounds, factories, race tracks, fairs, transportation terminals, parking lots, indoor or outdoor meetings, etc. "Peaked" response is eliminated for minimum listening fatigue and greatest articulation.

APPLICATIONS

Particularly recommended for highest quality are the E-V AC100 and FC100 compound horns. These horns feature less distortion and wider useful range than any other type. In addition, the coverage angle is uniquely flexible when difficult sound problems are encountered. Where maximum economy is desired, the Electro-Voice model AR150, FR150, or HC400 reentrant horns are recommended. The exclusive E-V ring reflector in the round aluminum AR150 extends the useful high-frequency range for superior voice articulation and musical balance. The FR150 features a fiberglass horn of rectangular shape with medium angle coverage. The HC400 provides maximum economy and efficiency for small horn paging applications.

The rugged, weather-resistant phenolic diaphragm in the 1828 series is virtually indestructible in even the most stringent service. The entire voice coil and diaphragm is held to absolute concentricity through exclusive E-V design and construction technique utilizing automatic thermal compensation in voice coil assembly plus the most advanced manufacturing processes.

SPECIFICATIONS

Frequency response:		
	AC100 and FC100:	150 - 10 kc
	AR150 and FR150:	190 - 8 kc
Voice coil impedance:		8 ohms
Power handling:		
	Sine wave:	20 watts
	Program:	30 watts
	Adjusted program:*	40 watts
Sound pressure level**		
Horn type -	AR150:	127 db
	FR150:	121 db
	FC100:	120 db
	AC100:	124 db
	HC400:	123 db
Dimensions:		
	Diameter:	4-1/32"
	Overall length:	3-9/32"
Net weight:		4-3/4 lb.
Finish:		Mesa Tan baked enamel
Thread size:	Front -	1-3/8" —18
	Rear -	1-3/8" —18
Terminal polarity:		T1 - positive
		T2 - negative

*With capacitor to limit diaphragm excursion below low-frequency horn cutoff.

** At 4-foot on axis with 1 Hz sweep from 750 to 1250 Hz at 30 watts.

INSTALLATION

When the driver is to be used with Electro-Voice Compound Diffraction Projectors (Note: threads on both front and rear openings are standard 1-3/8 - 18):

1. Remove protective plastic caps (front and rear ports) and plastic foam loading plug (rear port).

Note: Front port is adjacent to terminals.

2. Install large horn section of CDP at rear of driver.

3. Install small horn (high-frequency section) at front of driver.
4. Tighten hand tight so that rubber gaskets are slightly compressed.

For use with multicellular and reentrant horns:

1. Remove front plastic cover.
2. Install horn at front of driver--tighten hand tight so that rubber gasket is slightly compressed.
3. Firmly hand tighten plastic cover on driver rear port.
   Note: Do not remove foam loading plug.

CONNECTIONS

Connect an 8-ohm amplifier output to terminals T1 and T2. (Note: T1 gives forward diaphragm motion with positive voltage. T1 normally should be considered (+) plus and T2 as (-) minus.

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The driver shall have a uniform response of 150 - 10,000 Hz when mounted in an FC100 or AC100 horn. The sound pressure level at 4' on axis with 1 Hz sweep from 750 to 1250 Hz at 30 watts shall be 120 db when mounted in an FC100 horn. (124 db when mounted in an AC100 horn.) The power handling capacity shall be 30 watts of program material. The nominal voice coil impedance shall be 8 ohms.

Driver shall be of the convertible type having two separate sound openings. The front opening shall be suitable for frequencies above 1000 Hz when coupled to the high-frequency section of a compound horn or for full range when coupled to any other type of horn. The rear sound opening shall be suitable for frequencies below 1000 Hz when coupled to the low-frequency section of a compound horn. Rear sound opening shall have a threaded cap and plastic damping plug. Diaphragm shall be linen-base molded phenolic and voice coil shall be 1-1/2 inches diameter. Field replacement shall be possible without special tools.

The housing shall be die-cast and shall be completely weatherproof. Spring-loaded terminals shall be phased. The diameter of the driver shall be 4-1/32" and the length 3-9/32". Net weight shall be 4-3/4 lb. The finish shall be Mesa Tan baked enamel. Electro-Voice Model 1828C is specified.

LOW FREQUENCY DRIVER PROTECTION

When frequencies below the low-frequency cut-off for the horn assembly are fed to the driver, excessive current may be drawn by the driver. For protection of driver, amplifier, and transformer (if driver with built-in transformer is used), capacitor(s) in series with driver or transformer primary are recommended. The following table indicates recommended values. The values shown are for 200 cycles per second. Values for other frequencies can be determined by using the formula:

$$C = C_{200} \left(\frac{200}{f}\right)$$

C_{200} = Values shown in the following table

f = New Frequency

For drivers without transformers:
8 ohms driver, 25 wv - 100 mf

Series capacitors for 200 Hz and below--driver protection:

	70 volt lines	
Power	Impedance	Capacitance
60 w	83	10 mf
30 w	166	5 mf
15 w	333	2 mf
8 w	625	1 mf

150 v. DC or 150 v. non-polarized electrolytic, or 2 150 v. DC electrolytics of 2 times required value in series, back to back, for 70 volt lines.

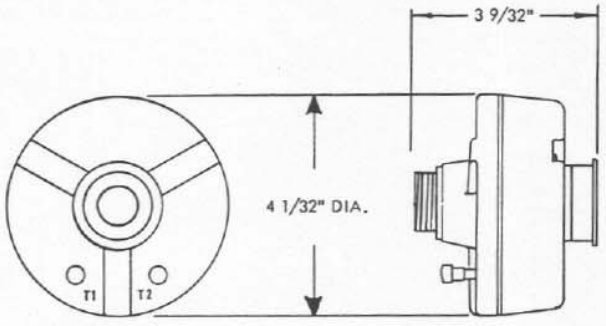

Figure 1-Dimensions

Part No. 532810 ELECTRO-VOICE, INC. / Buchanan, Michigan Litho in U.S.A.